

# NEXUS

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# Nexus 2018

## Architecture and Mathematics

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edited by

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## Nexus 2018: Relationships Between Architecture and Mathematics

11 – 14 June 2018, Pisa, Italy

Organised by:

Dipartimento di Ingegneria dell'Energia,  
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ISBN 978-88-88479-47-7

Cover image: Nexus 2018 Logo designed by Ivan Mechkunov

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# CONTENTS

## **Monday, 11 June 2018**

### **Perspective, Space, Dimension, Geometry**

- 13 CORNELIE LEOPOLD. The Development of the Geometric Concept of Relief Perspective
- 19 AGOSTINO DE ROSA, ALESSIO BORTOT. Hunched Curves in the Vatican: The Vestibule Arch of the Pio Clementino Museum, Between Stereotomy and Anamorphosis
- 25 JOÃO PAULO CABELEIRA. Deconstructing the Imaginary Space of a Quadratura
- 31 GIUSEPPE D'ACUNTO. Notes on Oblique Space
- 37 SNEZANA LAWRENCE. Lost and Found: Some Mathematical Messages from Renaissance Tuscany to a 21st-Century Teacher
- 43 ALESSANDRA CAPANNA. The Four-Dimensional House Theorem
- 49 COSIMO MONTELEONE. The Mathematical Space of Daniele Barbaro
- 55 LAURA CARLEVARIS. N-Dimensional Perspective: The Mathematics behind the Interpretation of Ancient Perspective
- 61 STEFANO CHIARENZA. Peter Nicholson and the First Interpretation of Greek Architectural Mouldings as Sections of a Cone
- 67 RIZAL MUSLIMIN. A Grammatical Investigation of Utzon's Spherical Schema Evolution
- 73 ANTONIA REDONDO BUITRAGO. On Polygons, Set Squares and Mudéjar Carpentry
- 79 RADOSLAV ZUK. The Visible and Invisible Geometries of Venice

## **Tuesday, 12 June 2018**

### **Historical Analysis**

- 87 FRANCESCA FATTA, DOMENICO MEDIATI. The Design of Roman Mosaics in North Africa and their Geometric References
- 93 ASLI AGIRBAS. Algorithmic Decomposition of Geometric Islamic Patterns: A Case Study with Star Polygon Design in the Tombstones of Ahlat
- 99 BERNARD PARZYSZ. What We Can Learn from Roman Geometric Mosaics about the People Who Made Them
- 105 JOHN KENDALL HOPKINS. A Unified Schema of the Façade of San Miniato Al Monte: The Simultaneity of Interlocking Symbolic Harmonic, Irrational and Perfect Numbers
- 111 SANAZ AHMADZADEH SIYAHROOD, ARGHAVAN EBRAHIMI, MOHAMMADJAVAD MAHDAVINEJAD. Application Of Cubit-Gaz and Shape Grammar in Architecture Plan Design
- 117 ATHANASSIOS ECONOMOU. The Six Vitruvian Principles of Architectural Design Reframed within Contemporary Computational Design Discourse

- 123 ROBERTA SPALLONE, MARCO VITALI. *Regola* and *Licentia* in the *Extraordinario Libro* by Sebastiano Serlio
- 129 ORNELLA ZERLENGA, VINCENZO CIRILLO. *Della pianta delle Scale* of Guarino Guarini
- 135 ANNA MAROTTA, URSULA ZICH, MARTINO PAVIGNANO. Theories and Approaches in Fortifications Design: The Figure of Gaspare Beretta
- 141 STEFANO BRUSAPORCI, PAMELA MAIEZZA, GIANFRANCO RUGGIERI. A Reflection on the Cistercian *Bernhardinischer Grundtypus*
- 147 DANIELE CALISI, MATTEO MOLINARI. Giuseppe Valadier's Urban Layout for Piazza del Popolo in Rome
- 153 ISABELLA FRISO, ANDREA GIORDANO. The Design Process in the Salk Institute by Louis I. Kahn
- 159 VINCENZO BAGNOLO, ANDREA PIRINU, MARCELLO SCHIRRU. Geometrical Design Algorithms in Nineteenth-Century Prisons: The case of the *Rotunda* in Tempio Pausania
- 165 JOÃO PEDRO MARQUE SÊCO DIAS CARMONA. Urban Morphology of Geometric Pattern in the Villa Imperial de Petropolis
- 171 ARTURO GALLOZZI, MICHELA CIGOLA. Considerations on the Representations of the Analemma in Renaissance Editions of Vitruvius's *De Architectura*

**Wednesday, 13 June 2018**

**Contemporary Analysis, Structures, Techniques of Design, Algorithms, Rule-Based Design**

- 179 DENISE ULIVIERI, LUCIA GIORGETTI, BENEDETTA TOGNETTI. Vittorio Giorgini Spatiology-Morphology Architect: From 'Curved Systems' to 'Conventional Systems'
- 185 MICHAEL J. OSTWALD, MICHAEL J. DAWES. An Isovist Analysis of Frank Lloyd Wright's Hollyhock House
- 191 MICHAEL C. DUDDY. Logical Accidents: The Problem of the Inside Corner
- 197 ORIEL E.C. PRIZEMAN, CAMILLA PEZZICA, MARIANGELA PARISI, CLARA-LARISSA LORENZ. Function Should Follow Form: Futures for the Radiant Logic of Carnegie Public Libraries
- 203 SHEN GUAN SHIH, YI FENG CHANG. Composite Interlocking Structures of *SL* Strands
- 209 ASSUNTA PELLICCIO, MARCO SACCUCCI, ERNESTO GRANDE. A Key Nexus for Vault Systems from Lecce: Stereometric Correlation Between Shape and Structure
- 215 VALENTINA BEATINI. Morphology of Kinetic Structures by Means of Bar and Plate 4R-Linkages
- 221 MARCO HEMMERLING, CARLO DE FALCO. ArchiFold: An Educational Approach for the Integration of Mathematics in the Architecture Curriculum

- 227 MASSIMILIANO LO TURCO, URSULA ZICH, MARCO TRISCIUOGGIO, MICHELA BAROSIO, MARIA LUISA SPREAFICO, YOSEPH BAUSOLA PAGLIERO. Algorithmic Modeling and Design of the Architectural Shape: A Didactic Experience
- 233 FABIO BIANCONI, MARCO FILIPPUCCI, LORENZO CICULI. The Form of Music: Experiments between Cymatics and Engineering
- 239 MARCO CARPICECI, FABIO COLONNESE, Toward an Algorithm of Visual Design: The Mathematical Approach of Hermann Maertens' *Optische-Massstab*
- 245 CETTINA SANTAGATI, FEDERICO MARIO LA RUSSA, MARIATERESA GALIZIA, EUGENIO MAGNANO DI SAN LIO. Towards a Generic Parametric Algorithm for the Geometric Investigation of Baroque Oval Plans: An Application on Sicilian Cases
- 251 MANUEL ALEJANDRO RÓDENAS-LÓPEZ, PEDRO GARCÍA MARTÍNEZ, PEDRO MIGUEL JIMÉNEZ-VICARIO, ADOLFO PÉREZ EGEA, MARTINO PEÑA FERNÁNDEZ-SERRANO. Parametric Design Applied to Analysis and Optimization of Spatial Deployable Structures
- 257 MARIE-PASCALE CORCUFF. Jules Bourgoïn (1838-1908): A Forerunner of Generative Shape Grammars
- 263 BENAY GÜRSOY, MINE ÖZKAR. *Material Shapes* and How to Compute with Them
- 269 MANUELA BASSETTA. Form–Formal making of Traditional Chinese Architecture

**Thursday, 14 June 2018**

**Ph.D. Day**

- 277 PAOLO BORIN. Geometry, Science and Meaning in the Work of Guarino Guarini
- 281 CRISTIAN BOSCARO. *La Manière Universelle* of Girard Desargues for the Understanding of Stereotomic Structures
- 285 ALEXANDRA CASTRO. The Curve in the Architecture of Herzog & de Meuron
- 289 RAFFAELLA DE MARCO. Shapes and Models: The Survey for the Study of Structures in Historic Buildings
- 293 PAOLO DI PIETRO MARTINELLI. The Control of Illusory Space: The Contribution of Jacopo Barozzi da Vignola and the Anteroom of the Council in Palazzo Farnese at Caprarola
- 297 MARYAM DOROUDIAN, MOHAMAD REZA BEMANIAN, MOHAMAD JAVAD MAHDAVINEJAD. Exploring of Topological Architecture: a Review of Topology Influence on Architecture
- 301 WILLEM GYTHIEL, MATTIAS SCHEVENELS, DIRK HUYLEBROUCK. Generating Geodesic Grid Structures by Equally Subdividing Spherical Arc Segments
- 305 DIOGO PEREIRA HENRIQUES. Envisioning Future Public Spaces: Experiments in Co-Creation and Evaluation of Urban Visions

- 309 STEFANIA LANDI, ORIOL DOMÍNGUEZ MARTÍNEZ. Modularity in Ancient Grain Storage Systems: Historical Overview and In-Depth Analysis of Moroccan Fortified Granaries
- 313 ELISABETTA POZZOBON. Religious Architectural Heritage Losing Its Functions: Strategies to Mitigate the Problem and Provide New Value through Geographical Context Analysis
- 317 MAYCON SEDREZ. Complex or Complications? Fractal Geometry in Architecture and Urban Design
- 321 JAKUB ŚWIERZAWSKI. Curvilinearity in Architecture: Historical and Contemporary Ideas and Examples
- 325 VERA VIANA. Architectonic Tessellations as Constructive Modules



# THE CURVE IN THE ARCHITECTURE OF HERZOG & DE MEURON

*Alexandra Castro*<sup>1</sup>

The object of study of our Ph.D. work relates to the role of Geometry in contemporary architecture. Through the study of concrete examples, we are particularly interested in understanding the impact that, in the last 25 years, technological innovations and changes in aesthetic paradigms and spatial concepts had in architecture, interfering in the way Geometry, as a support tool for design, composition and construction of architectural objects, is used in the creative act.

With this purpose, we have chosen as the main case study of our research the work developed by the architects Herzog & de Meuron (HdM).

Besides being currently recognized as one of the most prestigious office internationally, the architectural practice of HdM is based on a traditional approach that, at least since Vitruve, considers drawing as a fundamental instrument of the project research, integrating in its methodology the most advanced digital tools. In this sense an analysis of HdM's work allows us to decode and understand the methodological transformations that have occurred in architecture in the last years and are transversal to the contemporary practice.

Another aspect that interest us, in a very particular way, is the importance these Swiss architects assign in the project to Geometry, becoming evident in an analysis of their work the strong presence of Geometry, not only from the point of view of its practical dimension but also of its theoretical dimension.

However, in this abstract we will focus on the specific theme of the curve. By curve we mean the planar and spatial curves, but also the surfaces, ruled and curved, that derive from it.

Through the reading of some of HdM's projects, ranging from the initial moment of their career to the most recent years, we want to make a critical recognition on the use of the curve in their architecture. On the one hand, to identify the geometric nature of the curves present in the projects and perceive the way in which they integrate the architectural design, solving specific problems of the project, structuring its composition and giving it an own internal consistency; on the other hand, to realize which is the meaning behind the use of this geometric entity, what are the particular ideas or concepts that the curved figure materialize, and if in its form is underlain a particular vocation.

A transversal reading of the HdM's projects where the curve appears allows us to highlight some aspects of a more general character.

And if we look closely at some of their works in a chronological sequence, which may begin at the Blue House (Oberwill, 1979-1980, Fig. 1a), where the curvature of one of the longitudinal walls appears to give the building more volume and weight and the circular windows of the top wall allude to the imaginary of Aldo Rossi, and end at the National Library of Israel (Jerusalem, 2013), marked by the central void

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drawn by a vertical sequence of decentered circles that interconnect the various floors and culminate in a large circular light, it is possible to read an evolution in the application of the curved figure.

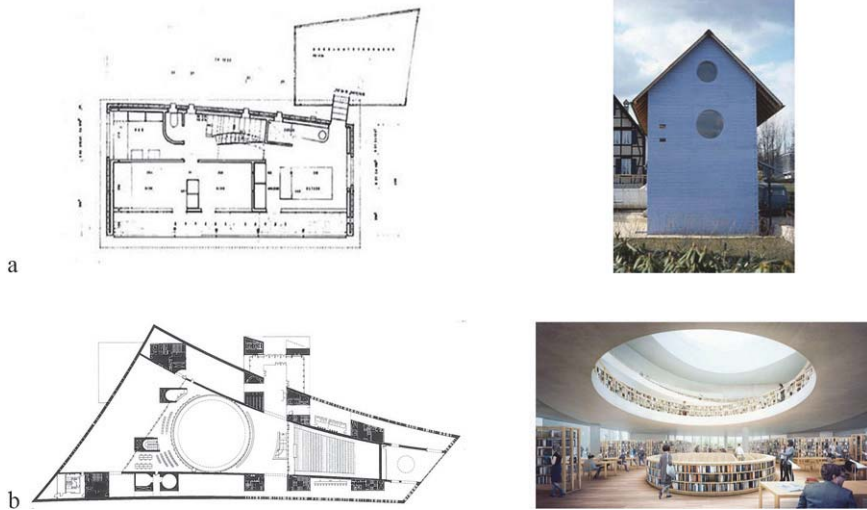


Fig. 1. a) Blue House (Oberwil, 1979-1980); b) National Library of Israel (Jerusalem, 2013)

If in an initial phase the curve appears, with a restrained expression, in a limited number of projects, in the late 1990s the use of this geometric entity, as a means of responding to design problems, turned out to be more frequent, acquiring a relevant affirmation, from the early years of 2000, where it became a design theme determining the image of the building.

This employment, increasingly significant, of curved figures of a great expressiveness, is due not only to the change in scale and typology of the works that HdM began to receive since 1995, but also to the progressive introduction of the digital tools into their work process, which inevitably expanded the possibilities in the exploration of the form by facilitating the mastery of complex geometries.

In HdM's architecture, with the exception of a few projects the most significant of which is the Hamburg Elbphilharmonie (Hamburg, 2001-2016), the curve doesn't acquire an excessive geometric complexity, often being based on the circumference and the ruled surfaces derived from it.

Regardless of the geometric nature of the curve present in the project, in HdM's work this geometric entity appears in exceptional elements that have implicit in themselves an apparent sense of self-referencing, or in elements to which is intended to confer uniqueness and autonomy regarding the adjoining references, whether they are existing or of the project.

This question is evident in the Cottbus University Library (Cottbus, 1998-2004), where the undulating contour of the plan, defined by a set of circumferences tangent to each other, gives body to an extremely continuous building in the shape that purposely stands out from the surrounding urban architecture, to assert itself as an individual landmark; or in the staircase elements located inside the buildings that recurrently assume a spiral shape to become free-standing sculptural objects,

detached from the architectural composition alignments, that guarantee in their singularity an orientation within the building.

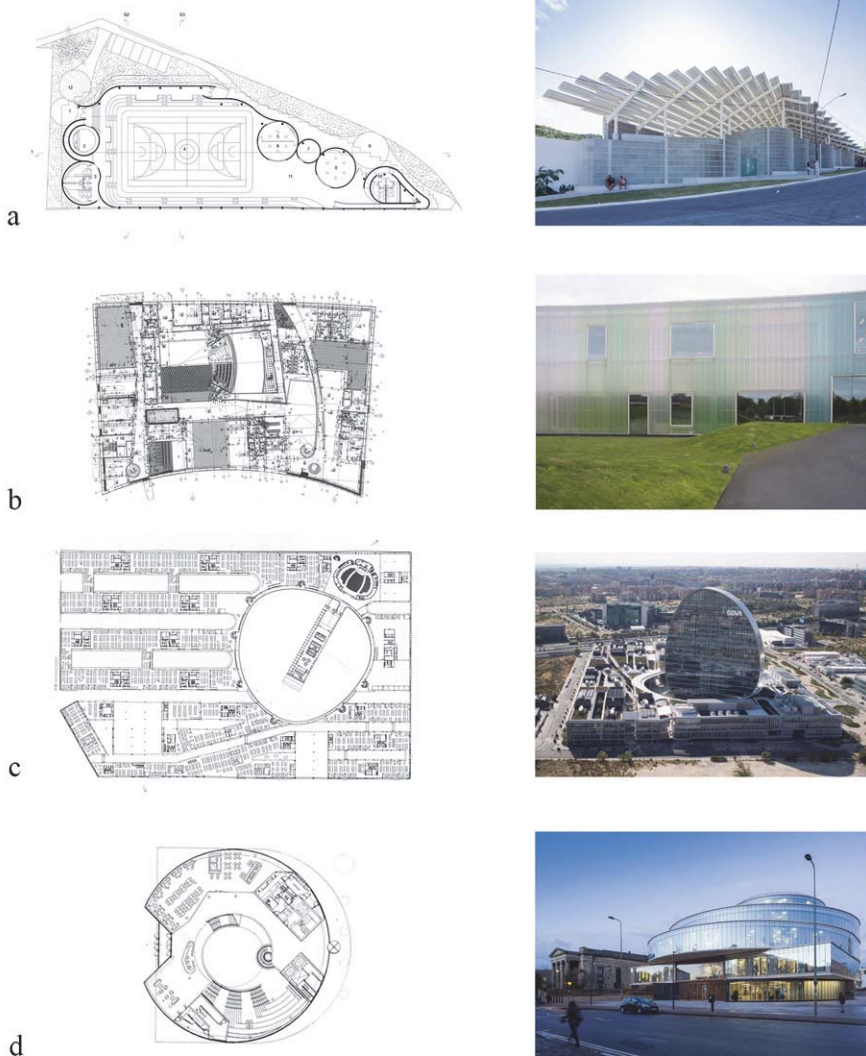


Fig. 2. a) Arena do Morro (Mãe Luiza, 2011-2014); b) Laban Dance Centre (London, 1998-2003); c) New Headquarters for BBVA (Madrid, 2007-2015); d) Blavatnik School of Government (Oxford, 2011-2015)

Observing the works of HdM, it is possible to group them according to the way in which the curved figure integrates the architectural composition, allowing us to clarify and highlight different design strategies associated to the application of the curve in the project: (1) as a free undulating flowing element; (2) as a slight torsion of the façade; (3) as an exception in the regular mesh; (4) as the genesis of the architectural composition.

While (1) is specific of a limited number of projects, such as the Kramlich Residence (Oakville, 1997) or the Arena do Morro (Mãe Luzia, 2011-2014, Fig. 2a), which point

out the strong continuity inherent in the curve, (2), despite being associated to the first manifestations of the curve in HdM's architecture, such as the Housing Pilotengasse (Vienna, 1987-1992) and the Laban Dance Centre (London, 1998-2003, Fig. 2b), is a gesture that goes through all their work, reappearing in recent projects such as the Kinderspital Zurich (Zurich, 2011) and the National Library of Israel (Jerusalem, 2013, Fig. 1b), as a means to introduce, alternatively to the stiffness of the plane, dynamism and vibration in the façade that welcomes who arrives at the building. The last two topics should be understood as strategies, in a certain way opposite, that lead to different compositional and volumetric results.

If in (3) buildings like the Messe Basel (Basel, 2004-2013), the New Headquarters for BBVA (Madrid, 2007-2015, Fig. 2c) and the Kinderspital Zurich (Zurich, 2011) testify to the curve's ability to configure, in a regular architectural structure, reference spaces that have a character of exception, and are associated most of times with meeting, socializing and leisure; in (4), the Serpentine Gallery Pavilion (London, 2012), the Blavatnik School of Government (Oxford, 2011-2015, Fig. 2d) and the Skolkovo Institute (Skolkovo, 2012) reveal the aggregate sense implicit in the closed curve and its capacity in unifying the volume, giving it an autonomy regarding the context.

This reading of HdM's work reveals us the importance these architects give, in the design practice, to Geometry. For them architecture is considered within a disciplinary scope, being understood as an artistic practice, with a history and tradition, that has to be defined and reinvented from itself.

This means that they are not interested in arbitrary geometric possibilities or pure experimentalisms. Geometry, on the other hand, is an integral part of their design theory, being continually invoked, in a very conscious way, to solve the several project themes, having the role of unifying the building as a whole.

### Acknowledgments

The author wishes to thank her doctoral supervisors, Prof. Dr. João Pedro Xavier and Prof. Dr. José Miguel Rodrigues. Assignment co-financed by the European Regional Development Fund (ERDF) through the COMPETE 2020—Operational Programme Competitiveness and Internationalization (POCI) and national funds by the FCT under the POCI-01-0145- FEDER-007744 project.

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